

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application: **(AS ON AMENDED SHEET(S) ANNEXED TO IPRP)**

1. (original) Method of charging a battery at a battery charger comprising connection means for connection to the terminals of a battery to be charged, means for detecting a voltage over the terminals of a connected battery, and control means for initiating a burst cycle, characterised in that it comprises the steps of:
 - applying a voltage at a connected battery;
 - detecting the voltage over the connected battery to sense an increase of voltage over said battery in order to identify whether the internal resistance of the battery has increased compared to a normal state;
 - initiating a burst cycle if said internal resistance is identified as increased, wherein a plurality of consecutive voltage bursts are applied to a connected battery to be charged, each burst having a length of at least an order of mS and each burst delivering an amount of charge to the battery and thereby successively lowering the internal resistance of the battery; and
 - initiating a charging cycle to charge the connected battery when said burst cycle has been terminated.
2. (original) Method according to claim 1, wherein each burst has a length within a range from about 50 mS to several seconds.

3. (currently amended) Method according to claim 1-~~or~~-2, wherein the step of initiating a burst cycle further comprises the steps of:

applying a voltage burst to the battery when said voltage over the battery has reached a first predetermined level

disconnecting said voltage burst when said voltage over the battery has reached a second predetermined level:

re-applying said voltage burst to the battery when said voltage over the battery has reached the first predetermined level.

4. (currently amended) Method according to claim 1-~~or~~-2, wherein the step of initiating a burst cycle comprise the step of:

applying said voltage bursts with a predetermined offset time between two consecutive bursts.

5. (original) Method of maintenance charging a battery at a battery charger comprising connection means for connection to the terminals of a battery to be charged, means for detecting a voltage over a connected battery, and control means, characterised in that it comprises the steps of:

detecting a voltage over the connected battery;

maintaining the voltage over the battery at a predetermined level for a predetermined period of time;

monitoring a battery capacity parameter when said predetermined period of time has elapsed; and

applying at least one voltage pulse if said parameter falls below a predetermined threshold level.

6. (original) Method according to claim 5, wherein said predetermined capacity parameter is the voltage over the connected battery.

7. (currently amended) Method according to claim 5-~~or 6~~, wherein the step of applying comprises the step of:

applying voltage pulses until the voltage over the battery has reached at least said predetermined level.

8. (currently amended) Method according to claim 5-7, wherein the step of applying comprises the step of:

applying voltage pulses during a predetermined period of time.

9. (currently amended) Computer readable medium comprising instructions for bringing a computer to perform a method according to ~~any one of preceding claims~~ claim 1.

10. (currently amended) A battery charger comprising connection means connected to

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U.S. National Phase of PCT/SE2004/000641

the output lines of the charger, connection means for connection to the terminals of a battery to be charged, means for detecting a voltage over a connected battery, and control means, characterized in that said control means is connected to said means for detecting and being

arranged to execute the methods according to ~~any one of claims 1-8~~ claim 1.